

An Evidence Base for Using the Four Domains Comprehensive Assessment of Leadership for Learning Survey and Feedback System to Support School Improvement

THOUGHT PAPER

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Introduction

In schools that struggle to perform well, educators and communities have shown a steadfast commitment to improvement, as underscored by ongoing local and state initiatives aimed at improving school performance. And even in high-performing schools, educators and leaders seek to improve.

Improvement is attainable, yet education leaders often find that striking a balance between the academic year's demands, their regular leadership responsibilities, and the pursuit of plans to improve student outcomes is challenging. Additionally, challenges that are unique to each school and district can impede progress, emphasizing the critical role of context in the school improvement process.

To guide schools, districts, and states in developing and carrying out improvement plans, WestEd's Center for School Turnaround and Improvement (formerly the Center on School Turnaround) developed *Four Domains for Rapid School Improvement: A Systems Framework*. The research-based framework is meant to be used as part of a strengths-based approach for supporting people as they develop plans to drive systemwide change for rapid improvement. Underlying the Four Domains framework are two key principles: that local context (school and district) is critical to implementing a school improvement plan and that no strategy that calls for change can work in isolation.

The Four Domains framework outlines relevant practices for each domain to aid schools, state educational agencies (SEAs), and local educational agencies (LEAs) in executing measurable actions and monitoring programs. When implemented effectively, the framework's practices not only should benefit students attending struggling schools but also should impact each school's entire community by creating support systems that better serve the students.

WestEd also uses a survey system to accompany the framework and further aid school leaders in identifying opportunities for intervention and improvement. The Four Domains Comprehensive Assessment of Leadership for Learning (CALL) system employs a multisource comprehensive survey to assess fundamental leadership practices in schools, districts, and states. The CALL survey was created

to support school leaders and their leadership teams in identifying possible action items and developing a school improvement plan organized by the Four Domains framework.

An evidence-based tool, CALL is meant to provide data and feedback from each school to inform their improvement plans, help keep them on the right track, and empower them to monitor progress toward their success. The Four Domains CALL survey fits into the school improvement journey by assessing core leadership practices distributed across an organization. The survey is taken online by educators and leaders throughout a school or district. It is organized by the four domains and the three practices in each domain.

This paper delves into the evidence supporting the Four Domains CALL survey, offering insights into its appropriateness and capacity to inform improvement efforts within a systems-based framework.

Four Domains for Rapid School Improvement

The Four Domains framework identifies the practices of successful school improvement in domains that both research and experience suggest are essential. It underscores that a successful school turnaround

- requires a systems approach with coherent guidance and support from the state and district to complement the actions of the school; and
- takes more than an initial jolt of bold changes in structure, authority, and personnel—it includes phases in which effective practices and processes are sustained.

Within each domain of the framework, states, districts, and schools can identify their role in supporting successful school improvement efforts. Following is a brief overview of the domains and a sample practice from each domain.

Domain 1: Turnaround Leadership

According to the Four Domains framework (Center on School Turnaround, 2017), turnaround leaders catalyze and organize the coordinated work of the staff charged with implementing efforts to rapidly improve schools, harnessing their efforts and drawing them into a shared vision of success. These leaders at the state, district, and school levels drive initiatives to facilitate rapid, significant improvement for schools. Since the SEA, LEAs, and schools function collectively as a system, leaders' initiatives at any one level of the system affect other levels.

Domain 1 Sample Practice

Practice 1A: Prioritize improvement and communicate its urgency

Practice Description

- Set the strategic direction for turnaround, and establish clear policies, structures, and expectations for constituents to work toward ambitious improvement goals (Lane et al., 2014; Murphy, 2010; Player & Katz, 2016; Stringfield et al., 2008).
- Articulate a commitment to turning around the lowest-performing schools and advocate fiercely across audiences for these schools (Herman et al., 2008; Rhim & Redding, 2014).
- Closely monitor, discuss, report, and act upon the progress of schools undertaking rapid improvement (Matthews & Sammons, 2004; Player et al., 2014).

Source: Center on School Turnaround, 2017, p. 5

Domain 2: Talent Development

The second domain of the Four Domains framework posits that competent and committed personnel at every level and in every position can become champions for change. Such personnel across the school community—educators, administrators, coaches, and others—are key players in a school improvement plan. Policies and procedures to identify, select, place, retain, and sustain these personnel, especially teachers and school-level leaders, are a precursor to school turnaround, and staffing of teachers and leaders for turnaround schools should be approached with equity in mind. By identifying turnaround competencies and balancing support with accountability, school communities can implement necessary improvement pathways.

Domain 2 Sample Practice

Practice 2A: Recruit, develop, retain, and sustain talent

Practice Description

- Proactively plan for recruiting and developing talent with turnaround-specific competencies to quickly fill the vacancies that will inevitably occur during the turnaround process (Berry, 2004; Crowther et al., 2009; Darling-Hammond et al., 2007; Guarino et al., 2006; Steiner & Barrett, 2012).
- Use multiple sources of data to match candidate skills and competencies to school needs, prioritizing the highest need schools (Berry, 2004; Crowther et al., 2009; Steiner & Barrett, 2012; Steiner & Hassel, 2011).
- Institute succession planning activities by creating in-house district preparation programs designed to foster and generate turnaround competencies to develop future turnaround leaders and teachers (Berry, 2004; Darling-Hammond et al., 2007; Epstein et al., 2016; Parsley & Barton, 2015).

Source: Center on School Turnaround, 2017, p. 12

Domain 3: Instructional Transformation

Within the third domain of the framework, student learning outcomes hinge on classroom instruction. In turn, systemwide support for a shift in classroom instruction is integral to school improvement. Strong standards-based instruction, data-based planning, differentiation, and individualization; research-based pedagogical approaches; and classroom management play key roles in an effective instructional model. These must be identified and supported at the school, district, and broader system levels. Addressing school-based and non-school-based factors helps students become ready to learn.

Domain 3 Sample Practice

Practice 3A: Diagnose and respond to student learning needs

Practice Description

- Diagnose student learning needs and use identified needs to drive all instructional decisions (Anderson et al., 2010; Lachat & Smith, 2005).
- Incorporate effective student supports and instructional interventions (Hamilton et al., 2009; Lachat & Smith, 2005; Love et al., 2008; Tomlinson et al., 2003).
- Use fluid, rapid assessment and adjustment of instructional grouping and delivery to adapt to student learning needs (Hamilton et al., 2009; Klute et al., 2016; Love et al., 2008).

Source: Center on School Turnaround, 2017, p. 19

Domain 4: Culture Shift

In the final domain of the Four Domains framework, achieving a successful turnaround requires moving toward high academic expectations and a strong level of commitment. A turnaround culture melds strong community cohesion with an academic push—one without the other is insufficient. Leadership establishes the structures and opportunities for faculty and staff to work together around common goals and to engender a culture of mutual respect, shared responsibility, and attention focused on student learning. State, district, and school leaders engage families to support their children’s learning and the overall turnaround effort. A strong school community attends to the culture inside and outside the school, gathering input from community members and gauging perceptions about the school and the turnaround effort.

Domain 4 Sample Practice

Practice 4A: Build a strong community intensely focused on student learning

Practice Description

- Celebrate successes—starting with quick wins early in the turnaround process—of students, family, teachers, and leaders. Early success promotes an expectation for further success and engenders confidence in the competence of colleagues (Herman et al., 2008; Kowal et al., 2009).
- Provide explicit expectations and support for each person’s role (expected behaviors) both in the turnaround and in student progress (Leithwood et al., 2010; Saunders et al., 2009).
- Create opportunities for members of the school community to come together to discuss, explore, and reflect on student learning (Louis et al., 2010; Osborne-Lampkin et al., 2015).
- Champion high expectations (of self and others), embed them in everyday practice and language and reinforce them through shared accountability and follow-through on strategies for dramatically improving student outcomes (Lambert, 2002; Masumoto & Brown-Welty, 2009).

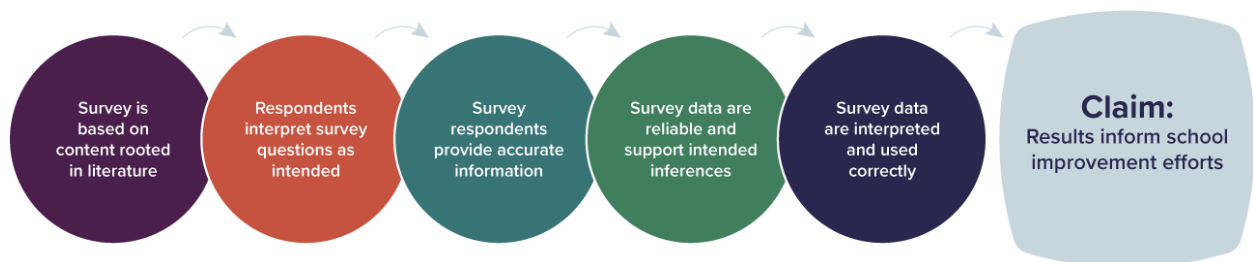
Source: Center on School Turnaround, 2017, p. 26

Validity of the Four Domains CALL Survey

To provide evidence for the claim that results from the Four Domains CALL survey can inform improvement efforts within a systems-based framework, the appropriateness of the survey can be evaluated. Using an argument-based approach to validity (Kane, 2006), this paper demonstrates the degree to which the CALL survey measures what it claims to measure and contains properties needed to meet the claim of guiding school improvement efforts.

Borrowing from Perie and Forte (2011), this paper’s validity argument simplifies Kane’s structure by focusing on the overall claim and required assertions to meet that claim. The paper presents five assertions and evidence to support each assertion. With sufficient evidence to support the assertions, the claim can be made with confidence. (See Figure 1 for a visual of the validity argument.)

Figure 1. Validity Argument for the Four Domains CALL Survey



In the following sections, each of the five assertions is explored, and evidence is provided to support the assertions, which underlie the final claim. The evidence for the assertions comes from various sources. The Four Domains CALL survey system that WestEd uses was adapted from the CALL survey that was initially developed at the University of Wisconsin (Kelley et al., 2012). WestEd shortened the survey, focusing it on the four domains, although many of the questions remain the same. Thus, some evidence collected for the original survey applies to the version that WestEd uses, and some evidence described in this paper was collected later with the newer version of CALL.

Assertion 1: Survey is based on content rooted in literature.

A previous analysis of the original CALL survey (Kelley et al., 2012) found a strong alignment between the survey questions and the Interstate School Leadership Licensure Consortium (ISLLC) standards, which focus on leadership effectiveness:

Of the six ISLLC standards, the first five standards were the most strongly related to CALL. The last standard, which focuses on leadership in the larger political environment of schools, was not strongly related to CALL, because CALL's focus is on the teaching and learning environment of the school, and not on the principal's leadership activities outside of the school. (Kelley et al., 2012, p. 14)

To provide additional evidence that supports the WestEd version, which structures the content around four domains, WestEd conducted a literature review that lays out the rationale for the content and domain structure of the Four Domains CALL survey.

Literature Review to Validate the Four Domains CALL Survey

To ensure that the Four Domains CALL survey is gathering information that informs improvement efforts, WestEd conducted a literature review focused on the themes that the survey's questions address and performed a quantitative analysis of the survey questions.

Although this review found literature that supports the importance of individual domains and practices that are the focus of the Four Domains CALL survey, most of the relevant literature also emphasizes that school improvement should involve a systems approach—that is, initiatives must have structures in place that work *together* to support their success.

WestEd conducted this review with flexible criteria for including or excluding particular literature. The researchers sought papers that were peer-reviewed and had been published in 2000 or later, but these conditions were not mandatory. Literature that included a review of many studies (such as a meta-analysis) and references that were cited over 100 times were examined more closely than others.

Google Scholar was the search engine of choice. The WestEd team developed a list of search terms that included the following:

- WestEd Four Domains CALL Survey Leadership for Learning School Transformation
- school leadership assessment tool/survey
- school improvement tool/survey
- school needs assessment survey
- Four Domains for Rapid School Improvement survey
- assessment of school readiness for improvement

- leadership assessment
- staff experience survey

For the articles found by these searches, WestEd researchers noted the articles' main findings that supported the relevance of CALL survey items. After documenting the literature that supported the CALL survey questions, the team then identified the main areas in the survey that did not yet have literature to support them and conducted another search. Those areas included the following:

- alignment of initiatives
- needs assessment
- professional learning
- formative feedback for teachers
- evaluation/observation of teachers by principals
- school safety
- family involvement

The WestEd team documented questions that did not have supporting literature and searched for any literature in support of those questions. The team identified at least one piece of literature that supports each question in the Four Domains CALL survey. The team also searched for evidence supporting the structure of using the four domains that inform the CALL survey.

Summary of Literature Review Findings

The following summary of the literature that relates to CALL survey items is organized by the four domains—turnaround leadership, talent development, instructional transformation, and culture shift—and the three practices in each of those domains.

Domain 1: Turnaround Leadership

The focus of the first domain of the Four Domains framework is captured well by Fullan (2005): “[T]urnaround leadership concerns the kind of leadership needed for turning around a persistently low-performing school to one that is performing acceptably as measured by student achievement according to state tests” (p. 174).

Practice 1.1: Prioritize improvement and communicate its urgency

Some research suggests it is important for schools to be “learning organizations” in which improvement initiatives are institutionalized so they become part of the schools’ structures, atmospheres, and daily routines (Huber & Muijs, 2010).

This body of research supports the relevance of the Four Domains CALL survey's questions that ask about the teachers that are involved in decision-making and implementing school initiatives. And according to Dueppen and Hughes (2018), decisions made by the leadership team should be communicated strategically. This research supports the relevance of the CALL survey's questions on how teachers and leaders focus conversations on instruction and student learning.

Practice 1.2: Monitor short- and long-term goals

Dueppen and Hughes (2018) also suggest that school goals should be clear and communicated consistently. The Four Domains CALL survey includes several questions about the school's goals and how progress is tracked toward those goals, which is a research-based practice. For example, the survey asks about the nature of the goals articulated in the school's action plan or improvement plan and how those goals are monitored. Although the survey does not explicitly ask how the goals are communicated, whether the school's goals have been communicated can be inferred from participants' responses.

Practice 1.3: Customize and target support to meet needs

Askell-Williams and Koh (2020) propose that improvement initiatives should be aligned with goals in order to be sustainable. The Four Domains CALL survey includes questions about the extent to which initiatives are aligned. Additionally, the survey asks about external experts' roles in schools; these questions may shed light on how external advisors respond to the schools' needs and offer support that aligns with the institution's goals and initiatives.

Domain 2: Talent Development

The second domain includes addressing teacher turnover as a widespread issue across school systems. Replacing teachers not only is costly but also negatively impacts student achievement. Teacher observation and feedback, time to collaborate and plan with colleagues, and a focus on analyzing student work and discussing instructional strategies are three components of talent development that research indicates may address the issue of teacher turnover (Carver-Thomas & Darling-Hammond, 2017).

Practice 2.1: Recruit, develop, retain, and sustain talent

Regarding teacher recruitment, Redding and colleagues (2018) say teachers should be hired based on schools' needs. A question in the Four Domains CALL survey asks how schools make hiring decisions. Also, the literature review revealed that once teachers are hired, it is imperative that they feel supported and valued. Finally, the review made it clear that school leaders' ability to distribute leadership responsibilities across staff members—another aspect of developing talent—indirectly affects students learning outcomes (Dueppen & Hughes, 2018; Huber & Muijs, 2010; Leithwood et al., 2006; Pont et al., 2008).

Although it is not fully understood why, evidence implies that distributed leadership improves teachers' perceived working conditions, capacity, motivation, and commitment (Leithwood et al., 2006). In other words, distributed leadership supports teacher buy-in. The Four Domains CALL survey addresses this topic with a question about how schools foster teacher leadership.

Practice 2.2: Target professional learning opportunities

The Four Domains CALL survey asks about the opportunities for collaboration, how often teachers are encouraged to collaborate, and the nature of that collaboration. As illustrated by Carver-Thomas and Darling-Hammond (2017), giving teachers time to collaborate supports their retention. Research shows that professional learning should be planned strategically and aligned with schoolwide goals (Redding & Corbett, 2018). The CALL survey also asks about the planning of professional learning opportunities, their alignment with the school's instructional goals, and the extent to which the opportunities support the teachers' instructional practices.

Practice 2.3: Set clear performance expectations

"Results suggest that systemic teacher observations, coupled with aligned [professional learning], resulted in significantly improved student achievement in reading and math on standardized assessments," a study conducted by Shaha and colleagues (2015, p. 55) states. The study supports the importance of the Four Domains CALL survey's questions about school leaders observing teachers' classrooms and about how school leaders plan professional development. Hill and Grossman (2013) propose that teacher observation instruments "must be subject-specific, involve content experts in the process of observation, and provide information that is both accurate and useful for teachers." This article supports the relevance of the Four Domains CALL survey questions on the nature of classroom observations and the impact that observations have on teachers' practices. It emphasizes the importance of making sure feedback is specific and useful.

Domain 3: Instructional Transformation

In the Four Domains framework, instructional transformation involves adjusting instruction based on the ongoing assessment of students' learning needs.

Practice 3.1: Diagnose and respond to student learning needs

Waitoller and Artiles' (2013) review of research on inclusive education provides evidence for the importance of the Four Domains CALL survey questions on the support offered to students who are English language learners (ELL students), students with special needs, and other "struggling" students because it underscores the importance of having an intersectional, inclusive approach to support those students. The article also backs the relevance of the CALL survey questions about monitoring students' progress and making adjustments by emphasizing the importance of identifying and addressing students' needs through improving instruction.

Practice 3B: Provide rigorous evidence-based instruction

Research by Redding and colleagues (2018) provides information on the importance of setting goals for student learning and using a rigorous, standards-aligned curriculum. The CALL survey includes questions on standards for student learning. For example, it asks about the extent to which standards, the curriculum, and assessment are aligned and how gaps in alignment are addressed.

Practice 3C: Remove barriers and provide opportunities

Redding and colleagues (2018) emphasize the importance of identifying and addressing students' needs through improving instruction, differentiating instruction, and partnering with community-based organizations. This research provides support for the importance of Four Domains CALL survey questions on monitoring students' progress and adjusting appropriately. For example, the survey includes questions about the school's plan for addressing absenteeism, suspensions, bullying, and students dropping out—all of which can interfere with student achievement. The survey also queries the extent to which schools coordinate with external organizations to provide students with support outside school and the extent to which schools offer targeted interventions and extended instruction.

Domain 4: Culture Shift

The Four Domains framework acknowledges that shifting the culture of a school is complex—it requires clear processes and procedures coupled with community support and uptake.

Practice 4A: Build a strong community intensely focused on student learning

Kutsyruba and colleagues (2015) provide evidence to support the importance of the Four Domains CALL survey questions on school climate and school safety. The research goes into depth on how a school environment in which students feel connected and safe is a precursor to student achievement. The article also discusses the various definitions of safety, supporting the CALL survey's definition: "Students and staff do not feel threatened, in danger of being bullied, intimidated, or concerned about their physical or emotional safety."

The Four Domains CALL survey questions include asking about the safety of each school area and the policies in place to ensure safety.

Additionally, research suggests that setting positive behavioral expectations is one component in a whole-school model that can lead to increased academic achievement (Luiselli et al., 2005). The CALL survey examines how schools set positive behavioral expectations for students.

Practice 4B: Solicit and act upon stakeholder input

Research proposes that successful school leaders solicit input from staff members (Huber & Muijs, 2010; Leithwood et al., 2006). Consistent with that research, the Four Domains CALL survey investigates the extent to which staff members are involved in decision-making processes.

School leaders should solicit input not only from staff members, but also from families. However, research suggests that some challenging work needs to be done beforehand. A study conducted by Garcia and Guerra (2004) indicates that teachers who reflected on their beliefs and assumptions demonstrated increased awareness of culture in educational settings. They were able to question and often reject their previously negative views of the cultures of their students' families and were more likely to recognize the role of those cultures in their students' learning and success. This research supports the importance of the CALL survey question regarding the frequency of teachers having challenging conversations about their assumptions about students, families, and themselves.

Staff members' reflection prepares them to engage families in decision-making. When families are involved in decision-making, students may receive more consistent messages at home and in school about academic expectations, parents may have a stronger sense of ownership, and educators may make more informed choices that are responsive to the needs of the community (Epstein, 2017). Accordingly, the CALL survey includes questions about the structures in place to solicit family input.

Practice 4C: Engage students and families in pursuing education goals

Family involvement—specifically family involvement in student learning—has a significant positive impact on student outcomes (Carter, 2002; Caspe et al., 2007; Simon, 2001). This body of research supports the relevance of the Four Domains CALL survey questions on how schools engage families. Specifically, the survey asks how often public meetings are scheduled, what parent–teacher conferences entail, how well those conferences are attended, and how often families visit classrooms.

Thus, there appears to be sufficient evidence to support the content and structure of the Four Domains CALL survey. The next assertions are focused on respondents interpreting the questions in the survey correctly and responding as intended.

Assertion 2: Respondents interpret survey questions as intended.

The original researchers who developed the CALL survey created a practitioner group of school leaders and educators to review early drafts and provide feedback. This group assisted with reviews to clarify language to ensure the intention was met. They also advised on which questions should be given to which groups of people in a school and on which questions were relevant only to a certain school level, such as high school. As a result of these reviews, language was adjusted, definitions were added, and items were revised to simplify them and avoid “double-barreled questions.”

After drafting the original survey, the researchers also asked 78 school leaders to take the survey and provide feedback on the utility and appropriateness of the questions. The focus group data indicated that this initial draft of the survey was comprehensive and reflected major school leadership systems and actions; the only documented concern was with the length of the survey and the time needed to complete it.

The final stage was to run a pilot of the survey and capture teacher and administrator experiences in taking the survey. Again, the evidence showed that not only did respondents understand the survey questions, but also those questions prompted discussion among teachers and between teachers and their school principal about the school's strengths and weaknesses, just as the survey was designed to do.

A major goal of the original survey design process was to ground survey items in choice options that reflect actual practices, rather than framing responses in terms of perceptions of leadership practice. A consistent comment that early researchers received from practitioners who took the survey is that it was “comprehensive and that taking the survey provided them with an opportunity to think about the things that they should do, that they do well, and that they need to work on in their leadership practice” (Kelley et al., 2012, p. 17).

Finally, the original CALL survey's developers conducted statistical analyses to look at patterns in item frequency distributions and concluded the following (Kelley et al., 2012, p. 26):

Three primary patterns emerged as important for informing survey refinement. First, items that clustered around a single response were identified for possible refinement in terms of adjusting response options to capture variations in practice that were currently being grouped into a single response category.

Second, items that resulted in unexpected results were identified as needing additional refinement to clarify the question or response options. For example, a very high percentage of respondents in the pilot indicated that they participated in or experienced learning walks in the school. For this item, we determined a need to more clearly define the term *learning walks* to ensure that we were capturing actual practice and not a misinterpretation of the meaning of the question and response options.

Third, items that did not successfully distinguish between schools were identified for refinement or elimination to ensure that the item was successfully distinguishing between schools in important leadership dimensions.

This analysis was replicated by WestEd analysts using data from more recent administrations of the WestEd version of the CALL survey. To match the initial analysis, the frequency distribution of responses was run first. Appendix A presents the raw data by survey item. Next, items identified as “routing” items, which only served to determine the next item received by the survey respondent, were removed from further analysis. In addition, survey responses such as “Not Applicable” and “I don't know” were removed from further analysis. The descriptive statistics using only valid responses for the Four Domains CALL survey items are presented in Appendix B.

The distribution data from this analysis show an appropriate range of responses and different means for each question, indicating that the clustering found in the initial field test of the original survey no longer exists. Therefore, the methods used by the original researchers to identify items that did not appear to be interpreted as intended resulted in a survey containing items that had been edited or eliminated, and the new data strengthen the evidence for the assertion that respondents interpret survey questions as intended.

Assertion 3. Survey respondents provide accurate information.

The accuracy of the information that survey respondents provide can be explored by comparing the survey results with information from a different mode of collecting the same kind of data. The original researchers conducted interviews with the respondents to gather qualitative information on the same domains as those assessed by the survey. They focused on interviewing the school principal at each of the six participating pilot schools and asking questions about the organizational and leadership context of the school. They triangulated the survey data with the information gained in the interviews to determine the degree to which the survey accurately captured that information.

Further research could be done on the current CALL survey to triangulate the data with other validated surveys of school leadership, such as the Vanderbilt Assessment of Leadership in Education, McREL's Balanced Leadership Profile, or the NASSP 360° Leadership Survey.

Assertion 4. Survey data are reliable and support intended inferences.

Reliability is a measure of internal consistency. High reliability indicates that a survey's items are working together as intended, whereas low reliability indicates the presence of measurement error. Because the information from the Four Domains CALL survey is interpreted at the domain and practice levels and no overall score is generated, WestEd analysts conducted reliability statistics at the lowest level: practices. Reliability statistics were calculated using the set of survey items within a given practice to calculate Cronbach's Alpha (Cronbach, 1951). The expectation for each practice is a reliability coefficient of at least 0.70 or higher. This internal consistency threshold of 0.70 was defined by Kelley and Halverson (2012, p. 16). The resulting reliability estimates are presented in Table 1 for each of the practices. Separate results are presented for administrative or support staff and for teachers because some items depend upon the role of the survey respondent. All values are above 0.74 and therefore meet the consistency threshold as defined.

Table 1. Reliability Estimates of Each CALL Practice

Practice	Ordinal alpha (number of survey items—survey respondents): administrators and support staff	Ordinal alpha (number of survey items—survey respondents): teachers
1.1: Prioritize improvement and communicate its urgency	0.75 (8)	0.78 (8)
1.2: Monitor short- and long-term goals	0.77 (5)	0.85 (5)
1.3: Customize and target support to meet needs	0.84 (9)	0.91 (9)
2.1: Recruit, develop, retain, and sustain talent	0.80 (6)	0.79 (6)
2.2: Target professional learning opportunities	0.90 (12)	0.90 (12)
2.3: Set clear performance expectations	0.87 (10)	0.88 (10)
3.1: Diagnose and respond to student learning needs	0.87 (9)	0.84 (9)
3.2: Provide rigorous, evidence-based instruction	0.91 (11)	0.92 (11)
3.3: Remove barriers and provide opportunities	0.86 (9)	0.87 (9)
4.1: Build a strong community intensely focused on student learning	0.92 (12)	0.92 (12)
4.2: Solicit and act upon stakeholder input	0.88 (6)	0.88 (6)
4.3: Engage students and families in pursuing education goals	0.76 (6)	0.74 (6)

Given the evidence that the items within each CALL practice are internally consistent, the mean item response within each practice is used for further analyses, which is a common practice in education research (Norman, 2010; Sullivan & Artino, 2013).

The next piece of evidence needed requires demonstrating that the items comprising the four domains do cluster together and that a different clustering does not fit the data better. The primary goal of a Confirmatory Factor Analysis is to confirm whether the data fit the hypothesized measurement model supported by the literature review. The model used by the Four Domains CALL survey includes four domains underlying the 12 practices. The domains are expected to correlate, but too high a correlation may indicate that the items do not fully discriminate one domain from another. A model assuming four distinct factors was compared to one with a single factor, the simplest model. WestEd analysts determined whether each model's fit with the data was acceptable by using Hu and Bentler's (1999) criteria that the comparative fit index (CFI) (Bentler, 1990) must be greater than or equal to 0.95 and the standardized root mean square residual (SRMR) must be less than or equal to 0.08. The four-domain and one-domain models were compared using nested model chi-square analyses (Table 2).

Table 2. Confirmatory Factor Analysis Model Fit Indices

Model	Degrees of freedom	Chi-square statistic (χ^2)	CFI	SRMR
Unidimensional	54	1,926.55	0.96	0.03
Four Dimensional	48	1,132.09	0.98	0.02

Note. The sample size for all models is 4,224. CFI = comparative fit index (Bentler, 1990). SRMR = standardized root mean square residual.

Each of the models shows a CFI higher than 0.95 and an SRMR less than 0.08. The four-factor model shows a slightly better fit index. Fit may be improved by examining items that discriminate the least well across the four domains and eliminating them if possible.

The factor loadings for each practice are shown in Appendix C. They show the practices fit in the domain specified. However, Table C5 shows high correlations among the four domains, which indicates the items may not be discriminating well across the domains. Although they fit where they are placed, identifying individual items that fit multiple domains and either editing or eliminating them may produce stronger evidence to support four distinct domains.

Overall, the evidence provides moderate support that the four domains fit the four-dimensional model as intended. Given that the literature and use cases support these domains, additional item-level analyses could strengthen the statistical evidence.

Assertion 5: Survey data are interpreted and used correctly.

Regardless of how well aligned the survey is to what it is intended to measure or how strong the data are, if the results are not interpreted and used correctly, the validity of the survey is compromised.

The Four Domains CALL survey provides formative feedback to school leaders through summary results that are reported by domain, practice, and item. Based on these results, school leaders also receive suggestions on leadership practices in which they could engage to strengthen areas shown to improve teaching and learning.

The feedback designs reflect research on the principles of effective feedback, professional development, and adult learning. The survey research done in Wisconsin (Kelley et al., 2012) on the CALL instrument provided strong evidence that the data are interpreted correctly, and the described intended use is appropriate. The Wisconsin researchers conducted interviews with principals on how they interpreted and intended to use the results. Principals cited the transparency of the survey, the clear presentation of results, and the item-by-item guidance on steps that could be taken to improve the practice identified in the item. They also appreciated that each item could be connected to a larger vision or theory of action for effective leadership practice.

WestEd staff have noted similar feedback in their work with schools. For example, in response to being asked to reflect on the Four Domains framework and CALL, a school improvement administrator in Utah said,

The Four Domains [framework] provides our schools not only a framework as part of our theory of action, but also the consistency of language, the consistency of practice, and, more importantly, the consistency to monitor and measure their progress as they continue to focus on learning, growth, and achievement.

Similarly, according to a Mississippi school improvement administrator, formerly a principal, “The greatest benefit” of applying the Four Domains framework is that it “has allowed us to create a coherent system of support.”

Finally, WestEd staff provide technical assistance to support the appropriate use of the data. After a Four Domains CALL survey has been completed, school and district leaders have immediate access to the action-based data. The Four Domains CALL feedback system identifies areas of strength and focus areas to guide school and district leaders through school improvement plans. The feedback system contains multiple features to support data analysis and professional growth, including opportunities for comparing data, adding notes to data sets, and drilling down to specific item-level data. District leaders can view results as an aggregate in the feedback system and can identify districtwide trends. These results and trends can help inform resource allocation and address professional development needs. Additionally, a pre- and post-assessment can be administered to monitor progress on implementing change strategies.

WestEd services for school improvement planning are also available to help build the capacity of schools, LEAs, and SEAs to improve educational programs and culture for all schools and all students. Specifically, WestEd can provide support in the following areas:

- Interpreting survey results
- Analyzing data to identify key areas of strengths and opportunities for improvement
- Uncovering practices and processes for an effective system of continuous improvement
- Analyzing root causes, prioritizing needs, and focusing resources on areas that will have the greatest positive outcome on student achievement
- Developing an action plan with specific recommendations for enhancing leadership talent
- Supporting the implementation of the action plan with on-site coaching
- Supporting ongoing, data-driven collaboration—within schools and among administrators and teachers
- Assisting in the collection of diagnostic data using the Four Domains CALL survey

Assistance in these areas is intended to support the correct interpretation and use of the data.

Evaluating the Validity Argument

Overall, the evidence supporting the validity of the Four Domains CALL survey is moderately strong. Table 3 summarizes the evidence for each assertion and suggests next steps for collecting additional evidence.

Table 3. Evaluation of Evidence of Each Assertion

Assertion	Strength of evidence	Possible additional evidence
Survey is based on content rooted in literature	Strong	Continuing to monitor research in this area and updating as needed
Respondents interpret survey questions as intended	Moderately strong	Asking some respondents to engage in either concurrent or retrospective think-alouds to better ensure items are being interpreted as intended
Survey respondents provide accurate information	Moderate	Conducting a study to triangulate results of the Four Domains CALL survey with a different, but similar survey
Survey data are reliable and support intended inferences	Moderate	Evaluating the items that fit in multiple domains to determine if they could be modified or eliminated, which would strengthen the assertion that there are four domains underlying the items
Survey data are interpreted and used correctly	Strong	Continuing to monitor and ensuring data are used as intended

In conclusion, the evidence that the Four Domains CALL survey contains the necessary features to meet its goals is moderately strong. One additional area is open for research as well: how schools improve after using the CALL survey. Not everyone believes that consequential validity should be included in a validity argument, but information demonstrating that schools using the survey to inform leadership practices actually improve as a result would be additional evidence that the survey is operating as intended. This evidence could be provided in the form of a case study of a school that participated in the CALL survey and subsequently saw improved student results or in the form of a summary of multiple schools that participated in the survey and saw improved student results.

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Appendix A—Percentage Distribution of Responses by Item

Table A1. Percentage Distribution of Responses by Item

Survey item	Percentage missing	Percentage coded as -2	Percentage coded as -1	Percentage coded as 0	Percentage coded as 1	Percentage coded as 2	Percentage coded as 3	Percentage coded as 4	Percentage coded as 5
FDS_010111	1.20	0.00	0.00	0.00	3.20	6.82	9.82	17.86	61.11
FDS_010120	7.60	0.00	0.00	0.87	1.22	3.42	13.07	32.84	40.98
FDS_010130	7.84	0.00	0.00	2.83	4.66	8.73	22.47	28.90	24.56
FDS_010140A_a	78.83	0.00	0.00	0.00	0.00	0.35	1.98	12.35	6.49
FDS_010140A_b	78.96	0.00	0.00	0.00	6.16	4.16	5.71	1.85	3.16
FDS_010140T_a	22.50	0.00	0.35	0.00	0.00	0.59	6.47	33.25	36.85
FDS_010140T_b	22.95	0.00	0.00	0.00	0.00	18.77	33.49	8.45	16.33
FDS_010150	1.48	0.00	0.00	11.54	1.92	5.68	11.76	29.31	38.31

Survey item	Percentage missing	Percentage coded as -2	Percentage coded as -1	Percentage coded as 0	Percentage coded as 1	Percentage coded as 2	Percentage coded as 3	Percentage coded as 4	Percentage coded as 5
FDS_010160	3.07	0.00	0.00	0.00	3.22	4.31	21.60	36.30	31.49
FDS_010170_new	8.38	0.00	0.00	3.27	4.99	11.15	24.93	28.96	18.31
FDS_010210	9.86	0.00	0.00	0.00	4.25	5.95	12.67	48.45	18.82
FDS_010220	3.59	0.00	0.00	0.00	2.79	11.24	24.98	0.00	57.40
FDS_010230	4.18	0.00	0.00	0.00	5.12	20.34	27.42	0.00	42.94
FDS_010240	7.06	0.00	0.00	0.00	6.45	13.76	16.44	30.53	25.76
FDS_010250	3.90	0.00	0.00	0.00	27.37	10.04	17.18	24.59	16.92
FDS_010310	5.07	0.00	0.00	0.00	2.85	14.33	16.66	26.61	34.47
FDS_010320	7.97	0.00	0.00	1.18	1.11	4.49	14.44	32.64	38.18
FDS_010330_a	3.44	0.00	15.96	80.60	0.00	0.00	0.00	0.00	0.00
FDS_010330_b	20.54	0.00	0.00	0.00	0.00	8.71	20.71	38.44	11.61
FDS_010340_a	4.36	0.00	40.68	54.97	0.00	0.00	0.00	0.00	0.00
FDS_010340_b	45.45	0.00	0.00	0.00	0.00	4.31	18.86	25.96	5.42

Survey item	Percentage missing	Percentage coded as -2	Percentage coded as -1	Percentage coded as 0	Percentage coded as 1	Percentage coded as 2	Percentage coded as 3	Percentage coded as 4	Percentage coded as 5
FDS_010350	5.77	0.00	0.00	0.00	2.96	9.60	34.10	36.50	11.06
FDS_010351	3.99	0.00	0.00	16.55	1.22	4.86	16.35	26.83	30.20
FDS_010352	4.03	0.00	0.00	21.25	2.07	7.06	19.82	26.05	19.73
FDS_010353	3.96	0.00	0.00	19.88	2.35	6.77	19.73	25.68	21.62
FDS_010360	5.57	0.00	0.00	0.00	6.51	8.58	30.95	28.31	20.08
FDS_020110	100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FDS_020120	10.54	0.00	0.00	0.00	13.07	3.70	8.23	48.72	15.74
FDS_020130	8.01	0.00	0.00	3.27	5.53	9.45	20.19	26.83	26.72
FDS_020140	4.68	0.00	0.00	11.61	3.77	6.23	17.01	24.35	32.36
FDS_020160	6.75	0.00	0.00	0.00	8.04	22.67	22.97	34.23	5.34
FDS_020170	6.69	0.00	0.00	0.00	4.66	9.41	12.43	48.74	18.07
FDS_020180	7.97	0.00	0.00	2.16	5.53	7.88	18.14	24.54	33.78
FDS_020210A	80.99	0.00	0.00	0.00	0.22	1.61	2.77	10.21	4.20

Survey item	Percentage missing	Percentage coded as -2	Percentage coded as -1	Percentage coded as 0	Percentage coded as 1	Percentage coded as 2	Percentage coded as 3	Percentage coded as 4	Percentage coded as 5
FDS_020210T	24.74	0.00	0.00	0.00	1.22	9.06	10.71	36.13	18.14
FDS_020220	10.43	0.00	0.00	0.00	20.21	7.73	8.62	39.79	13.22
FDS_020230	7.27	0.00	0.00	0.00	2.42	12.83	36.15	15.77	25.57
FDS_020240	7.01	0.00	0.00	0.00	0.85	7.77	28.22	40.37	15.77
FDS_020250	6.45	0.00	0.00	0.00	2.13	8.73	6.75	8.75	67.18
FDS_020260	8.01	0.00	0.00	1.94	3.59	9.76	21.60	28.14	26.96
FDS_020271A_a	81.40	0.00	7.97	10.63	0.00	0.00	0.00	0.00	0.00
FDS_020271A_b	80.62	0.00	0.00	0.00	9.04	0.59	3.07	4.27	2.42
FDS_020271T_a	25.46	0.00	37.22	37.33	0.00	0.00	0.00	0.00	0.00
FDS_020271T_b	24.98	0.00	0.00	0.00	38.72	2.68	9.54	14.66	9.43
FDS_020272A_a	81.32	0.00	4.75	13.94	0.00	0.00	0.00	0.00	0.00
FDS_020272A_b	80.64	0.00	0.00	0.00	5.90	1.26	5.05	5.07	2.07
FDS_020272T_a	25.33	0.00	14.46	60.21	0.00	0.00	0.00	0.00	0.00

Survey item	Percentage missing	Percentage coded as -2	Percentage coded as -1	Percentage coded as 0	Percentage coded as 1	Percentage coded as 2	Percentage coded as 3	Percentage coded as 4	Percentage coded as 5
FDS_020272T_b	24.93	0.00	0.00	0.00	20.56	8.84	19.80	17.29	8.58
FDS_020280	10.26	0.00	0.00	0.00	10.28	3.59	10.04	42.75	23.08
FDS_020290_new	8.14	0.00	0.00	0.00	12.24	8.60	14.44	7.86	48.72
FDS_020291	6.99	0.00	0.00	0.00	6.58	14.18	31.05	27.85	13.35
FDS_020292	7.06	0.00	0.00	0.00	7.56	13.65	28.20	26.24	17.29
FDS_020310	7.88	0.00	0.00	1.59	2.90	7.91	18.86	30.40	30.47
FDS_020321	7.64	0.00	0.00	0.00	1.92	5.36	9.65	16.62	58.82
FDS_020322	7.88	0.00	0.00	0.00	6.40	4.09	9.12	16.70	55.79
FDS_020323	7.69	0.00	0.00	0.00	3.16	3.81	8.89	19.34	57.12
FDS_020324	7.80	0.00	0.00	0.00	3.09	4.64	10.58	20.17	53.72
FDS_020330A_a	81.36	0.00	1.26	17.38	0.00	0.00	0.00	0.00	0.00
FDS_020330A_b	83.23	0.00	0.00	0.00	0.00	1.94	4.79	0.00	10.04
FDS_020330T_a	25.57	0.00	11.22	63.22	0.00	0.00	0.00	0.00	0.00

Survey item	Percentage missing	Percentage coded as -2	Percentage coded as -1	Percentage coded as 0	Percentage coded as 1	Percentage coded as 2	Percentage coded as 3	Percentage coded as 4	Percentage coded as 5
FDS_020330T_b	37.39	0.00	0.00	0.00	0.00	9.84	18.45	0.00	34.32
FDS_020340	6.58	0.00	0.00	28.42	4.92	13.70	14.50	18.21	13.68
FDS_020351A	81.95	0.00	0.00	0.00	0.78	0.96	4.59	7.99	3.72
FDS_020351T	25.81	0.00	0.00	0.00	5.05	9.82	17.86	27.09	14.37
FDS_020352A	81.93	0.00	0.00	0.00	0.37	1.05	4.68	7.95	4.03
FDS_020352T	25.81	0.00	0.00	0.00	1.94	12.17	18.31	25.98	15.79
FDS_020353A	81.99	0.00	0.00	0.00	0.61	0.65	3.59	7.82	5.34
FDS_020353T	25.81	0.00	0.00	0.00	3.46	6.27	14.96	26.37	23.13
FDS_030110	8.08	0.00	0.00	12.24	0.50	0.91	13.35	20.64	44.27
FDS_030120_a	9.58	0.00	9.08	81.34	0.00	0.00	0.00	0.00	0.00
FDS_030120_b	19.60	0.00	0.00	0.00	0.00	7.53	7.36	35.56	29.94
FDS_030130	8.12	0.00	0.00	15.33	0.35	5.34	25.07	33.78	12.02
FDS_030140	8.30	0.00	0.00	9.02	0.72	7.40	24.24	15.88	34.45

Survey item	Percentage missing	Percentage coded as -2	Percentage coded as -1	Percentage coded as 0	Percentage coded as 1	Percentage coded as 2	Percentage coded as 3	Percentage coded as 4	Percentage coded as 5
FDS_030150	8.51	0.00	0.00	13.55	5.07	9.54	13.63	26.68	23.02
FDS_030161	9.86	0.00	0.00	0.00	4.12	8.71	21.52	30.77	25.02
FDS_030162	10.13	0.00	0.00	0.00	7.03	11.35	23.72	27.26	20.51
FDS_030163	10.13	0.00	0.00	0.00	7.67	10.84	23.43	27.05	20.88
FDS_030170A_a	81.36	0.00	3.46	15.18	0.00	0.00	0.00	0.00	0.00
FDS_030170A_b	80.64	0.00	0.00	0.00	4.49	0.61	4.51	6.25	3.51
FDS_030170T_a	25.44	0.00	23.72	50.85	0.00	0.00	0.00	0.00	0.00
FDS_030170T_b	24.96	0.00	0.00	0.00	24.91	2.48	12.61	22.32	12.72
FDS_030210	10.13	0.00	0.00	0.00	4.62	8.60	26.76	33.25	16.64
FDS_030220	10.43	0.00	0.00	0.00	17.70	8.71	6.27	41.35	15.53
FDS_030230_new	8.91	0.00	0.00	24.93	7.53	9.69	19.60	14.90	14.44
FDS_030240	7.93	0.00	0.00	1.81	0.98	4.01	13.59	32.69	39.00
FDS_030250	11.96	0.00	0.00	0.00	7.08	24.35	0.00	8.23	48.39

Survey item	Percentage missing	Percentage coded as -2	Percentage coded as -1	Percentage coded as 0	Percentage coded as 1	Percentage coded as 2	Percentage coded as 3	Percentage coded as 4	Percentage coded as 5
FDS_030260	10.74	0.00	0.00	10.50	20.43	17.73	12.26	20.47	7.88
FDS_030271_new	10.21	0.00	0.00	0.00	3.35	7.16	23.98	36.13	19.16
FDS_030272_new	10.19	0.00	0.00	0.00	3.88	8.32	24.37	33.97	19.27
FDS_030273	10.02	0.00	0.00	0.00	2.90	7.38	21.54	34.08	24.09
FDS_030274_new	10.30	0.00	0.00	0.00	4.90	10.19	28.77	30.49	15.35
FDS_030280	10.95	0.00	0.00	0.00	26.15	9.65	0.00	36.72	16.53
FDS_030311_a	9.45	5.95	29.51	55.10	0.00	0.00	0.00	0.00	0.00
FDS_030311_b	8.95	0.00	0.00	0.00	39.66	11.61	27.20	9.95	2.64
FDS_030312_a	9.95	13.59	25.94	50.52	0.00	0.00	0.00	0.00	0.00
FDS_030312_b	8.99	0.00	0.00	0.00	42.81	5.57	21.04	16.18	5.40
FDS_030313_a	9.67	5.62	20.01	64.70	0.00	0.00	0.00	0.00	0.00
FDS_030313_b	9.15	0.00	0.00	0.00	28.20	6.99	29.05	20.78	5.84
FDS_030314_a	9.82	38.46	23.04	28.68	0.00	0.00	0.00	0.00	0.00

Survey item	Percentage missing	Percentage coded as -2	Percentage coded as -1	Percentage coded as 0	Percentage coded as 1	Percentage coded as 2	Percentage coded as 3	Percentage coded as 4	Percentage coded as 5
FDS_030314_b	9.06	0.00	0.00	0.00	63.37	3.09	12.26	8.43	3.79
FDS_030320	9.86	0.00	0.00	0.00	9.06	5.49	7.34	48.87	19.38
FDS_030330	9.73	0.00	0.00	0.00	5.81	4.31	4.46	42.49	33.19
FDS_030340_new	11.78	0.00	0.00	0.00	28.07	11.76	7.30	31.01	10.08
FDS_030350	11.13	0.00	0.00	0.00	35.52	8.30	7.01	29.49	8.56
FDS_030360	7.84	0.00	0.00	2.81	3.57	8.71	24.13	30.31	22.63
FDS_040110_new	8.23	0.00	0.00	2.18	8.12	12.67	22.36	24.32	22.10
FDS_040120	10.54	0.00	0.00	0.00	4.46	9.78	16.29	38.78	20.14
FDS_040131	9.45	0.00	0.00	0.00	11.63	18.90	36.24	19.16	4.62
FDS_040132	9.49	0.00	0.00	0.00	8.60	15.18	28.79	27.72	10.21
FDS_040140	7.93	0.00	0.00	0.68	3.01	6.53	15.88	27.46	38.52
FDS_040150	9.41	0.00	0.00	0.00	8.04	7.25	10.41	44.12	20.78
FDS_040161	8.93	0.00	0.00	0.00	1.00	3.48	16.27	44.71	25.61

Survey item	Percentage missing	Percentage coded as -2	Percentage coded as -1	Percentage coded as 0	Percentage coded as 1	Percentage coded as 2	Percentage coded as 3	Percentage coded as 4	Percentage coded as 5
FDS_040162	8.99	0.00	0.00	0.00	3.44	9.78	29.81	33.54	14.44
FDS_040163	9.15	0.00	0.00	0.00	6.53	14.48	31.62	26.96	11.26
FDS_040164	9.17	0.00	0.00	0.00	3.81	13.15	35.56	28.85	9.45
FDS_040170	8.95	0.00	0.00	11.24	2.96	9.82	24.02	33.04	9.97
FDS_040180_new	9.67	0.00	0.00	0.00	1.35	4.57	19.12	45.30	19.99
FDS_040221	8.34	0.00	0.00	5.29	9.15	13.41	24.48	23.82	15.51
FDS_040222	8.43	0.00	0.00	6.58	12.26	16.22	25.78	18.42	12.30
FDS_040230	11.04	0.00	0.00	0.00	7.56	7.16	27.29	26.50	20.45
FDS_040240	10.50	0.00	0.00	0.00	2.05	15.94	39.09	21.25	11.17
FDS_040250_new	11.63	0.00	0.00	0.00	10.04	16.31	47.02	0.00	15.00
FDS_040260	8.19	0.00	0.00	1.87	5.64	8.54	24.24	29.33	22.19
FDS_040310	9.45	0.00	0.00	29.14	13.55	27.13	0.00	14.57	6.16
FDS_040320	10.65	0.00	0.00	0.00	20.06	39.35	0.00	28.29	1.66

Survey item	Percentage missing	Percentage coded as -2	Percentage coded as -1	Percentage coded as 0	Percentage coded as 1	Percentage coded as 2	Percentage coded as 3	Percentage coded as 4	Percentage coded as 5
FDS_040330	11.19	0.00	0.00	0.00	10.34	8.73	4.49	42.20	23.04
FDS_040340	12.67	0.00	0.00	0.00	6.64	10.32		54.44	15.92
FDS_040350	10.84	0.00	0.00	0.00	23.67	7.73	9.15	35.71	12.89
FDS_040360	8.28	0.00	0.00	4.92	2.74	8.21	21.45	30.05	24.35

Note. For each survey item, there were five main response options, and each response was given a numerical code to calculate response scores. The specific response options for a particular item could vary depending on the survey version (e.g., teacher version versus administrator version). Any item that had no response or was marked as “N/A” (not applicable) or “never” or “no” was coded as 0 or a negative number (-1 or -2), depending on the item and survey version. The 0 and negatively coded responses were not included in composite scores. The percentages in each row may not total 100 exactly due to rounding.

Appendix B—Descriptive Statistics of the Four Domains CALL Survey Items

Tables for Domain 1: Turnaround Leadership

Table B1. Descriptive Statistics of CALL Survey Items for Practice 1.1: Prioritize Improvement and Communicate Its Urgency

Survey item	N	Mean	SD	Min	Max
FDS_010111 Leaders Engage Staff in Collaborative Conversations to Build Shared Vision for Student Learning	4,537	4.28	1.10	1	5
FDS_010120 School Leadership Staff Prioritizes Setting a Clear Vision for Teaching and Learning	4,203	4.19	0.91	1	5
FDS_010130 Leaders Prioritize Developing the Instructional Leadership of Others	4,102	3.67	1.13	1	5
FDS_010140A_a Frequency of Teacher Collaboration Around Teaching and Learning	972	4.18	0.66	2	5
FDS_010140A_b Focus of Teacher Collaboration Around Teaching and Learning	966	2.60	1.38	1	5
FDS_010140T_a Frequency of Teacher Collaboration Around Teaching and Learning	3,543	4.38	0.67	2	5

Survey item	N	Mean	SD	Min	Max
FDS_010140T_b Focus of Teacher Collaboration Around Teaching and Learning	3,538	3.29	1.06	2	5
FDS_010150 Use of Professional Collaboration Time	3,994	4.11	1.01	1	5
FDS_010160 Function of School Leadership Team	4,451	3.91	1.01	1	5
FDS_010170 School Leadership Staff Prioritizes Communicating School Improvement Progress	4,057	3.50	1.12	1	5

Note. The table indicates the number (N) of respondents who answered the question, their mean score (0–5), the variance of that score indicated by the standard deviation (SD), and the range (Min and Max).

Table B2. Descriptive Statistics of CALL Survey Items for Practice 1.2: Monitor Short- and Long-Term Goals

Survey item	N	Mean	SD	Min	Max
FDS_010210 Action Plan or School Improvement Plan for Improving Instruction	4,139	3.79	1.00	1	5
FDS_010220 Data on Student Formative Assessment Is Used to Inform School Improvement Goals	4,427	4.02	1.26	1	5
FDS_010230 Data on Student Standardized State Tests Are Used to Inform School Improvement Goals	4,400	3.58	1.37	1	5
FDS_010240 Monitoring Action Plan or School Improvement Plan	4,268	3.60	1.23	1	5

Survey item	N	Mean	SD	Min	Max
FDS_010250 Nature of Goals in Action or School Improvement Plan	4,413	2.93	1.48	1	5

Note. The table indicates the number (N) of respondents who answered the question, their mean score (0–5), the variance of that score indicated by the standard deviation (SD), and the range (Min and Max).

Table B3. Descriptive Statistics of CALL Survey Items for Practice 1.3: Customize and Target Support to Meet Needs

Survey item	N	Mean	SD	Min	Max
FDS_010310 Instructional Program Coherence Special Ed and ELL Students	4,359	3.80	1.17	1	5
FDS_010320 School Leadership Staff Prioritizes Carefully Analyzing Data to Identify School Improvement Needs	4,172	4.13	0.93	1	5
FDS_010330 Use of District Consultants	3,649	3.67	0.86	2	5
FDS_010340 Use of External Consultants	2,505	3.60	0.77	2	5
FDS_010350 A Process Exists to Coordinate With Community Organizations	4,327	3.46	0.94	1	5
FDS_010351 Characteristics of School’s Needs Assessment: Multiple Data Sources	3,649	4.01	0.98	1	5
FDS_010352 Characteristics of School’s Needs Assessment: Various Stakeholders	3,431	3.73	1.04	1	5

Survey item	N	Mean	SD	Min	Max
FDS_010353 Characteristics of School’s Needs Assessment: Collaborative Analysis of Findings	3,497	3.75	1.06	1	5
FDS_010360 Alignment of School Initiatives	4,336	3.50	1.13	1	5

Note. The table indicates the number (N) of respondents who answered the question, their mean score (0–5), the variance of that score indicated by the standard deviation (SD), and the range (Min and Max).

Tables for Domain 2: Talent Development

Table B4. Descriptive Statistics of CALL Survey Items for Practice 2.1: Recruit, Develop, Retain, and Sustain Talent

Survey item	N	Mean	SD	Min	Max
FDS_020120 Induction Programs for New Teachers	4,108	3.56	1.25	1	5
FDS_020130 School Leadership Staff Prioritizes Hiring or Training Instructional Specialists	4,074	3.67	1.19	1	5
FDS_020140 Basis for Staff Teaching Assignments: Match to Student Learning Needs	3,844	3.90	1.13	1	5
FDS_020160 Process for Hiring New Teachers	4,282	3.07	1.09	1	5
FDS_020170 Developing Teacher Leadership	4,285	3.71	1.05	1	5

Survey item	N	Mean	SD	Min	Max
FDS_020180 Prioritizing the retention of teachers and staff	4,127	3.81	1.20	1	5

Note. The table indicates the number (N) of respondents who answered the question, their mean score (0–5), the variance of that score indicated by the standard deviation (SD), and the range (Min and Max).

Table B5. Descriptive Statistics of CALL Survey Items for Practice 2.2: Target Professional Learning Opportunities

Survey item	N	Mean	SD	Min	Max
FDS_020210A Value of School-Based Professional Learning	873	3.87	0.89	1	5
FDS_020210T Value of School-Based Professional Learning	3,456	3.81	0.99	1	5
FDS_020220 Professional Development Plans for Individual Teachers	4,113	3.20	1.41	1	5
FDS_020230 Design of Professional Development	4,258	3.53	1.11	1	5
FDS_020240 Use of Teacher Expertise	4,270	3.67	0.88	1	5
FDS_020250 Principal’s Participation in Schoolwide Professional Development Activities	4,296	4.39	1.10	1	5
FDS_020260 School Leadership Staff Prioritizes Working Individually With Teachers to Improve Teaching and Learning	4,135	3.72	1.12	1	5

Survey item	N	Mean	SD	Min	Max
FDS_020271A Feedback Practices: Peer Observation and Feedback	890	2.51	1.54	1	5
FDS_020271T Feedback Practices: Peer Observation and Feedback	3,445	2.38	1.55	1	5
FDS_020272A Feedback Practices: Walk-Throughs of Classroom or Work Site	889	2.80	1.39	1	5
FDS_020272T Feedback Practices: Walk-Throughs of Classroom or Work Site	3,447	2.79	1.36	1	5
FDS_020280 Instructional Coaching Programs for Teachers	4,121	3.72	1.22	1	5
FDS_020290 Identifying Teacher Professional Development Needs	4,218	3.79	1.49	1	5
FDS_020291 Professional Learning: Connections to Students' Experiences	4,271	3.29	1.11	1	5
FDS_020292 Professional Learning: Students' Cultures as Assets	4,268	3.34	1.17	1	5

Note. The table indicates the number (N) of respondents who answered the question, their mean score (0–5), the variance of that score indicated by the standard deviation (SD), and the range (Min and Max).

Table B6. Descriptive Statistics of CALL Survey Items for Practice 2.3: Set Clear Performance Expectations

Survey item	N	Mean	SD	Min	Max
FDS_020310 School Leadership Staff Prioritizes Accountability for Teaching and Learning	4,157	3.86	1.08	1	5
FDS_020321 Leaders Schedule Time for Teachers to Discuss Student Achievement Data	4,241	4.35	1.02	1	5
FDS_020322 Leaders Schedule Time for Teachers to Discuss Student Work	4,230	4.21	1.21	1	5
FDS_020323 Leaders Schedule Time for Teachers to Discuss Strategies for Instruction	4,239	4.34	1.04	1	5
FDS_020324 Leaders Schedule Time for Teachers to Discuss Formative assessment of students	4,234	4.27	1.06	1	5
FDS_020330A Type of Formative Feedback on Teaching	770	4.08	1.16	2	5
FDS_020330T Type of Formative Feedback on Teaching	2,875	3.94	1.21	2	5
FDS_020340 Impact of Formal Teacher Evaluations	2,985	3.34	1.23	1	5
FDS_020351A Teacher Evaluation Practices: Pre-Conference Conversation to Establish Goals	829	3.72	0.99	1	5
FDS_020351T Teacher Evaluation Practices: Pre-Conference Conversation to Establish Goals	3,407	3.48	1.14	1	5

Survey item	N	Mean	SD	Min	Max
FDS_020352A Teacher Evaluation Practices: Classroom/Site Visit to Observe My Practice	830	3.79	0.92	1	5
FDS_020352T Teacher Evaluation Practices: Classroom/Site Visit to Observe My Practice	3,407	3.56	1.08	1	5
FDS_020353A Teacher Evaluation Practices: Post-Observation Conference	827	3.92	0.97	1	5
FDS_020353T Teacher Evaluation Practices: Post-Observation Conference	3,407	3.80	1.11	1	5

Note. The table indicates the number (N) of respondents who answered the question, their mean score (0–5), the variance of that score indicated by the standard deviation (SD), and the range (Min and Max).

Tables for Domain 3: Instructional Transformation

Table B7. Descriptive Statistics of CALL Survey Items for Practice 3.1: Diagnose and Respond to Student Learning Needs

Survey item	N	Mean	SD	Min	Max
FDS_030110 Frequency of Formative Assessments	3,659	4.35	0.84	1	5
FDS_030120 Impact of Response to Intervention or Multi-Tiered System of Support Program	3,692	4.09	0.91	2	5
FDS_030130 Effectiveness of Support Services	3,515	3.68	0.84	1	5

Survey item	N	Mean	SD	Min	Max
FDS_030140 Responsibility for Student Learning for Learning Disabled Students	3,797	3.92	1.07	1	5
FDS_030150 Responsibility for Student Learning for ELL Students	3,579	3.68	1.20	1	5
FDS_030161 Providing Guidance to Professional Learning Communities (PLCs) About Purpose and Structure	4,139	3.71	1.11	1	5
FDS_030162 Supporting PLCs to Help Teachers Identify Root Causes for Poor Student Performance	4,127	3.48	1.2	1	5
FDS_030163 Supporting PLCs to Help Teachers Develop Effective Instruction	4,127	3.47	1.21	1	5
FDS_030170A Teacher Feedback Practices: Collaborative Analysis of the Work of My Students	889	3.19	1.40	1	5
FDS_030170T Teacher Feedback Practices: Collaborative Analysis of the Work of My Students	3,446	2.94	1.53	1	5

Note. The table indicates the number (N) of respondents who answered the question, their mean score (0–5), the variance of that score indicated by the standard deviation (SD), and the range (Min and Max).

Table B8. Descriptive Statistics of CALL Survey Items for Practice 3.2: Provide Rigorous Evidence-Based Instruction

Survey item	N	Mean	SD	Min	Max
FDS_030210 Relation of Curriculum Mapping to Improved Student Learning	4,127	3.54	1.06	1	5

Survey item	N	Mean	SD	Min	Max
FDS_030220 A Common Standards-Based Approach to Grading	4,113	3.32	1.39	1	5
FDS_030230 Maximizing Access to Advanced Courses and/or Coursework for ALL Students	3,038	3.29	1.27	1	5
FDS_030240 Alignment of School's Curricula to State Standards	4,145	4.16	0.91	1	5
FDS_030250 Alignment Among Standards, Curriculum, and Assessments	4,043	3.76	1.52	1	5
FDS_030260 Process of Addressing Gaps in Alignment	3,617	2.72	1.36	1	5
FDS_030271 Supporting Instructional Modes: Routine Use of Instructional Practices	4,123	3.67	1.02	1	5
FDS_030272 Questioning and Dialogue: Student-Generated Questions and Interactions	4,124	3.63	1.05	1	5
FDS_030273 Support for Integrating Technology Into Classrooms	4,132	3.77	1.03	1	5
FDS_030274 Questioning and Dialogue: Posing High-Level Questions	4,119	3.46	1.07	1	5
FDS_030280 Role of School Leaders in Developing Differentiated Instruction	4,089	3.09	1.56	1	5

Note. The table indicates the number (N) of respondents who answered the question, their mean score (0–5), the variance of that score indicated by the standard deviation (SD), and the range (Min and Max).

Table B9. Descriptive Statistics of CALL Survey Items for Practice 3.3: Remove Barriers and Provide Opportunities

Survey item	N	Mean	SD	Min	Max
FDS_030311 Effectiveness of School Plans for Addressing Student Attendance Problems	4,181	2.17	1.18	1	5
FDS_030312 Effectiveness of School Plans for Addressing Student Suspension Rates	4,179	2.29	1.36	1	5
FDS_030313 Effectiveness of School Plans for Addressing Bullying	4,172	2.66	1.30	1	5
FDS_030314 Effectiveness of School Plans for Addressing Dropout Rates	4,176	1.75	1.23	1	5
FDS_030320 Programs That Add Instructional Time for Struggling Students	4,139	3.71	1.17	1	5
FDS_030330 Programs that Offer Targeted Intervention Periods During the School Day for Struggling Students	4,145	4.03	1.09	1	5
FDS_030340 Maximizing Access and Inclusiveness of Underrepresented Groups	4,051	2.81	1.48	1	5
FDS_030350 A Process Exists to Coordinate With Community Organizations	4,081	2.63	1.51	1	5
FDS_030360 Student Access to High-Level Courses or Enrichment	4,103	3.67	1.08	1	5

Note. The table indicates the number (N) of respondents who answered the question, their mean score (0–5), the variance of that score indicated by the standard deviation (SD), and the range (Min and Max).

Tables for Domain 4: Culture Shift

Table B10. Descriptive Statistics of CALL Survey Items for Practice 4.1: Build a Strong Community Intensely Focused on Student Learning

Survey item	N	Mean	SD	Min	Max
FDS_040110 Recognizing Groups of Teachers for Improving Student Learning	4,114	3.44	1.25	1	5
FDS_040120 Teacher and Staff Support for Change	4,108	3.67	1.09	1	5
FDS_040131 Effectiveness of School Discipline Policies: Eliminating Disruptive Behavior	4,158	2.85	1.06	1	5
FDS_040132 Effectiveness of School Discipline Policies: Addressing Behavioral, Timely Manner	4,156	3.17	1.13	1	5
FDS_040140 Leaders Prioritize Enforcing Policies to Ensure a Safe Learning Environment	4,197	4.01	1.09	1	5
FDS_040150 Programs Exist to Establish Positive Student Behavioral Expectations	4,160	3.69	1.17	1	5
FDS_040161 Safety of Classrooms	4,182	3.99	0.84	1	5
FDS_040162 Safety of Hallways	4,179	3.50	1.00	1	5
FDS_040163 Safety of Bathrooms	4,172	3.24	1.09	1	5

Survey item	N	Mean	SD	Min	Max
FDS_040164 Safety of School Grounds and Recess Areas	4,171	3.30	0.98	1	5
FDS_040170 Adult Relationships to Students	3,665	3.47	0.98	1	5
FDS_040180 Collective Expectations for Student Learning	4,148	3.86	0.87	1	5

Note. The table indicates the number (N) of respondents who answered the question, their mean score (0–5), the variance of that score indicated by the standard deviation (SD), and the range (Min and Max).

Table B11. Descriptive Statistics of CALL Survey Items for Practice 4.2: Solicit and Act Upon Stakeholder Input

Survey item	N	Mean	SD	Min	Max
FDS_040221 Community Forums for Listening to Parent and Family Concerns	3,966	3.27	1.23	1	5
FDS_040222 Group Meetings to Talk About School Curriculum and Testing	3,903	3.03	1.25	1	5
FDS_040230 Engaging in Challenging Conversations	4,085	3.51	1.18	1	5
FDS_040240 Quality of Communication Systems for Staff	4,110	3.26	0.97	1	5
FDS_040250 Obtaining Feedback From Families	4,058	2.93	1.15	1	5
FDS_040260 Utilizing Constructive Criticism and Feedback	4,130	3.60	1.14	1	5

Note. The table indicates the number (N) of respondents who answered the question, their mean score (0–5), the variance of that score indicated by the standard deviation (SD), and the range (Min and Max).

Table B12. Descriptive Statistics of CALL Survey Items for Practice 4.3: Engage Students and Families in Pursuing Education Goals

Survey item	N	Mean	SD	Min	Max
FDS_040310 Scheduling of Parent and Community Meetings	2,820	2.55	1.33	1	5
FDS_040320 Parent Attendance at Parent-Teacher Conferences	4,103	2.46	1.20	1	5
FDS_040330 Nature of Parent-Teacher Conferences	4,078	3.66	1.28	1	5
FDS_040340 Perception of Classroom Visitors	4,010	3.72	1.12	1	5
FDS_040360 Preparing Students for College and Careers	4,094	3.07	1.46	1	5
FDS_040350 Personalized Learning Opportunities for Students	3,986	3.75	1.06	1	5

Note. The table indicates the number (N) of respondents who answered the question, their mean score (0–5), the variance of that score indicated by the standard deviation (SD), and the range (Min and Max).

Appendix C—Results of Factor Analysis Confirming Four Factors Aligning to the Four Domains

Table C1. Domain 1 (Turnaround Leadership) Factor Loading Matrix Using CALL Practice Scores

Practice	Factor loading
1.1: Prioritize improvement and communicate its urgency	0.84
1.2: Monitor short- and long-term goals	0.76
1.3: Customize and target support to meet needs	0.88

Note. The sample size is 4,224. All factor loadings are statistically significant, $p < .01$.

Table C2. Domain 2 (Talent Development) Factor Loading Matrix Using CALL Practice Scores

Practice	Factor loading
2.1: Recruit, develop, retain, and sustain talent	0.81
2.2: Target professional learning opportunities	0.91
2.3: Set clear performance expectations	0.77

Note. The sample size is 4,224. All factor loadings are statistically significant, $p < .01$.

Table C3. Domain 3 (Instructional Transformation) Factor Loading Matrix Using CALL Practice Scores

Practice	Factor loading
3.1: Diagnose and respond to student learning needs	0.83
3.2: Provide rigorous evidence-based instruction	0.87
3.3: Remove barriers and provide opportunities	0.78

Note. The sample size is 4,224. All factor loadings are statistically significant, $p < .01$.

Table C4. Domain 4 (Culture Shift) Factor Loading Matrix Using CALL Practice Scores

Practice	Factor loading
4.1: Build a strong community intensely focused on student learning	0.85
4.2: Solicit and act upon stakeholder input	0.86
4.3: Engage students and families in pursuing education goals	0.80

Note. The sample size is 4,224. All factor loadings are statistically significant, $p < .01$.

Table C5. Correlation Between CALL Domains

Domain	Domain 1	Domain 2	Domain 3	Domain 4
1 – Turnaround Leadership	1.00			
2 – Talent Development	0.93	1.00		
3 – Instructional Transformation	0.93	0.97	1.00	
4 – Culture Shift	0.90	0.93	0.96	1.00

Note. The sample size is 4,224. All factor correlations are statistically significant, $p < .01$.

